



Maine School IPM News

Maine Department of Agriculture, Food, & Rural Resources

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Forget the ABC's. Do You Know Your PVA's?

Pest Vulnerable Areas (PVAs)

There may be more to a school than meets the eye. When the lights go out at the end of the day, four, six, and eight legged invaders may abound. Researchers at the University of Florida are working with public schools to apply an integrated approach to pest management in the school environment. With an integrated approach, pest managers may reduce pest problems while reducing pesticide applications.

To reduce pests in schools, you must reduce pest conducive conditions. These conditions are often found in what we call pest vulnerable areas, or PVAs. These are areas that

have food, water and harborage available to pests.

In order to find these pest vulnerable areas, it is important for pest managers to monitor the school for pests, this is done through monitoring stations placed throughout the school. Not only do pest managers monitor for pests, but they keep an eye out for pest harborage sites as well.

Once an infestation is identified, measures are taken to reduce the infestation including, exclusion, reduction of food, water and harborage, and the judicious use of pesticides, usually in a targeted bait application. By using integrated pest management principles, we can reduce the numbers of pests as well as maintain



Pests love to lounge around with the teachers.

a healthy learning environment.

PVAs

- Food Service Areas
- Dry Food Storage,
- Custodial Closets
- Classrooms,
- Storage Areas
- Gyms and Locker Rooms,
- Teacher's Lounge,
- Landscape

Bothersome Black Flies

Anyone who has spent a spring or summer in Maine has experienced black flies. Swarming to any red-blooded host, they are even known to drive moose out of the woods to seek relief in ponds or lakes.

Black flies breed in moving, clean water such as streams. They are found in wooded, wet areas.

Here's what you need to know to win the battle with Maine's unofficial state bird:

- Black flies typically appear in mid-May and hang around until the beginning of July.
- Black flies like woods. They dislike open areas or areas with breezes.

To minimize the ugly, swollen bites that can itch take these precautions:

- Cover as much exposed skin as possible.
- Tie a bandana around your neck to prevent them from crawling down your shirt.
- Wear light-colored clothing.

Mission: To reduce the risk of pests and unnecessary pesticide use by promoting integrated pest management (IPM) in schools and providing support, resources and training.

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Study Shows IPM Reduces Cockroach Allergens in Schools

By Rosemary Hallberg

Nobody wants cockroaches crawling around the kitchen. Yet in many schools, that is exactly what cafeteria staff have to live with, even after the pest control professional has come to spray. As administrators from two North Carolina school districts found out while participating in a 2003-04 study, integrated pest management can rid the school of pests—and keep them away.

Led by entomologists at North Carolina State University, the 2003 study compared the effectiveness of conventional pest control to IPM with respect to lowering German cockroach allergen levels in schools. Schools—in both urban and rural districts—are prone to cockroach infestations and have very high cockroach allergen levels. These allergens, *Blattella germanica* allergen 1, or simply Bla g 1, are associated with development and exacerbation of acute asthma in schoolchildren.

Researchers collected cockroach populations in three school districts—two of which were using conventional methods to control cockroaches and the third of which was using IPM. For the conventional methods, technicians simply applied insecticides on a monthly basis, or on an “as needed” basis. In the school district using IPM, technicians conducted visual inspections monthly, and documented conditions that might be conducive to pest infestations. Sticky traps, also for monitoring purposes, were also employed. These monitoring and record keeping methods are very important to an effective IPM program.

During the course of this study researchers placed traps throughout each school to monitor cockroach populations. In the kitchen, the team put traps under the sink and under food prep areas. In the cafeteria, they put traps behind vending machines and in serving line areas. Traps were also placed in teach-

ers’ lounges and restrooms. In addition to these traps, the team vacuumed school kitchens and classrooms, in order to collect and quantify Bla g 1 samples.

In the two school districts using conventional pest control methods, including insecticide sprays along baseboards and cockroach baits, researchers found on average anywhere from 9 to 187 cockroaches per week in the traps. In the school district using IPM, no cockroaches were ever found in any of the 41 traps. No, the school district using IPM didn’t have smarter cockroaches.

Staff from the schools that had been using IPM had been setting traps, well before the study began. Because their monitoring program had been in place for sometime, they were able to effectively reduce the numbers of pests entering the schools. They had sealed cracks from the outside of the building, and kitchen staff made sure counters, sinks, and floors were always clean at the end of the day. All of these practices serve to enhance an effective IPM program.

When results of the study showed that the two school districts that had been using insecticide sprays had more cockroaches and higher levels of Bla g 1 in the vacuum dust than did the school district using IPM, administrators from the first two school districts took notice. They also immediately switched to using IPM to control cockroaches. Under the Schoolchildren’s Health Act, North Carolina schools must convert to IPM. However, many school district administrators have been reluctant because of cost.

“The monetary costs for IPM might be higher initially, but it pays for itself down the road and provides a healthier school environment,” said Godfrey Nalyanya, one of the researchers in the study, as quoted in *Science Daily*. The results of this study should serve as a strong incentive to switch to IPM—fewer pest problems, fewer health problems, and a healthier learning environment.

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Dr. Godfrey Nalyanya, North Carolina State University and Buddy McCarty of Wake County Public Schools look for any potential problem areas at a Raleigh middle school.

Pest of the Month— Ants

Ants, as well as bees and hornets, are members of the order Hymenoptera. “Hymenoptera” comes from the Greek words “hymen”, meaning membrane, and “ptera” meaning wings. This describes the membranous characteristics of the wings. Pavement ants, the type most often seen in Maine schools in the spring and summertime, do not have wings— they are worker ants, scouting for food for the nest.

Ants fill an important niche in the ecosystem. They are predators, herbivores, parasites, as well as prey for many other organisms in the food web. Once inside a building, they are considered pests, as they compete for food and other resources by foraging and nesting. They are almost always found in kitchens when inside.

Pavement ant workers are small, about 2.5-4 mm long and are dark brown or black. The pedicel (which connects the abdomen and the thorax) has two segments. Swarmer and queens are winged and about twice the size of the workers.

Smart Management

- **Clean it up!** Ants are attracted to sweets, sugar, grease, protein, and even moisture. Wipe up spills, vacuum or sweep after meals, and keep kitchens clean! Take the trash out daily and keep the garbage cans clean.
- **Store it right!** Ants are not deterred by plastic, paper, and cardboard. Store food in clean, closed containers with tight-fitting lids (snap-top or screw-top lids with rubber seals).
- **Pets or potted plants in the classroom?** These can be attractive to ants, too. Plants can become infested with aphids or other honeydew-producing pests, and pet food debris can be an ant buffet. Monitor these attractive situations to prevent problems.
- **If you see a few stragglers** wandering through, you may be seeing the scouts for an ant invasion. Wipe them up with soapy water and a sponge and get rid of them before they report back to the nest. If you see trails of foraging ants, report them! Trails can be mopped up, vacuumed, or cleaned with soapy water and a sponge, but that alone may not solve the problem.

IPM for Pavement Ants

- **Exclusion** – Keep ants and other pests out by sealing cracks and crevices around windows, doors, wiring, plumbing and foundations. Seal gaps and cracks and maintain door sweeps in good condition. Since most ant pests nest outdoors, preventing access to the building is an important control measure.
- **Sanitation** – Keep food preparation and eating areas clean. Rinse or wash recyclable food containers before storing. Empty trash cans daily and keep cans clean inside and out. At least once daily, wipe counters, sinks, and other surfaces that collect food debris. Store food in sealed containers with tight-fitting lids or inside refrigerators and freezers.

- **Monitoring** – Regularly check pest-prone areas, such as kitchens and staff lounges, for indicators of ant problems. Moisture is also attractive to ants, so watch sinks and drains and report leaky plumbing immediately.
- **Physical controls** – Wipe up individual ants with a sponge and soapy water and dispose of them. Ant trails may be wiped up, mopped with soapy water, or vacuumed.



Pavement ant— a common pest in school kitchens.



Simply using soap and water to clean up an area will prevent ants from entering.

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Photo Credit: Joseph Berger, Bugwood.org

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Maine Board of Pesticides Control Update

The Maine Board of Pesticides Control investigated schools and found that less than 50% of them were in compliance with Section 2 of the Chapter 27 Rule on Pesticide Use.

Under this, all Maine schools must "maintain and make available" records of all pesticide applications, copies of all labels and material data safety sheets of all products applied, and the school IPM policy. Only 42% kept the MSDS, and only 40% had labels on record. 45% of schools had records of past applications, which must be kept for 2 years.

Why is it important to maintain these records?

- **Liability.** Pesticides are poisonous, not only to pests.
- **Address/identify health issues.** It shows what was/was not exposed to children.
- **Improve/identify IPM needs.** Examining past records of applications will show what works for your school.

View the Chapter 27 rule online at www.maine.gov/agriculture/pesticides/schoolipm/what/ch27.htm

Environmentally Conscious Schools Receive a Green Ribbon

School IPM 2015 Newsletter

The US Department of Education, with support from the White House Council on Environmental Quality and the US Environmental Protection Agency (EPA), has announced the creation of the Green Ribbon Schools Program. The program recognizes schools that promote healthy and sustainable practices, and teach environmental issues. According to US Secretary of Education Arne Duncan, "Preparing our children to be good environmental citizens is some of the most important work any of us can do."

Specifically, the award acknowledges the work of schools in three areas: environmental impact and energy efficiency, healthy environment and environmental liter-

acy. These criteria promote a healthy learning environment and encourage dissemination of environmentally conscious principles that students can apply in their future lives and careers. EPA administrator Lisa P. Jackson said, "The schools taking part in this initiative will help kids connect what they're learning in science class with the world around them." State education authorities will nominate schools based on criteria and instructions provided by the Department of Education.

The new program is modeled after the Department of Education's Blue Ribbon Schools Program, which recognizes schools that are high performing academically.

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